Dept. 731A

TECHNICAL FLASH

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SERVICE INFORMATION

DIV. 22
SUPPLIER# 592
BRAND SAMSUNG
PRODUCT COOKING

TEST MODE & ERROR CODE LIST

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Digital Appliances Division

SAMSUNG

Third Edition

Range
Test Mode & Error Code List

FTQ386LWX
FTQ352IW*
FCQ321*
FE-R300S*
FE-R400S*
FE-R500W*
FE-R700WX
FTQ307NWG*
FE-N300WX
FE-N500 WX
FE710DRS
FX510BGS
FX710BGS
NX583G0VB
NE593R0AB**
NE595R0AB**
NE597R0ABSR
NE595R1ABSR
NE595N0PBSR
NE597N0PBSR
NE599N1PBSR

Refer to the service manual on the GSPN for more information

Created By: Guanniu (Victor) Han

Error Code List for Range Ovens

CODE	CAUSE	REASON / SOLUTION
E-27	Oven sensor opened (over 2950Ω)	1. Disconnect oven sensor from control, measure the sensor resistance:1080Ω at room temp, replace oven sensor if abnormal. 2. If the sensor resistance is normal, check the wire terminal or the wire on harness. 3. Measure resistance of the oven sensor connector on main PCB (Normal: 2850Ω)
E-28	Oven sensor shorted. (Under 930Ω)	
E-08	Oven heating error	If the oven temperature can not reach 100˚F(38˚C) within 10 minutes while oven is working, “E-08” will be displayed and buzzer will sound.
E-0A	Oven overheating over	If the oven temperature is higher than 650˚F(343˚c) while oven is working, “E-0A” will be displayed and buzzer will sound. (Excluding the case of self-cleaning)
E-0E	Door locking error	When door lock does not work, after 1 minute elapsed, It will display “E-0E” and buzzer is beeping also . Press Cooking Time & Delay Start keys at the same time for 3 seconds to release.
SE/ tE	Shorted key	If any key is held for over 10 seconds or if there is a short circuit between main PCB and cable connector or keypad ribbon, “SE” will be displayed and the buzzer will sound.
E-0C	Partition switch error	This error code is for dual oven models only. Partition plate is not in place. Partition switch defect. (The resistance of partition switch should be 1750 ~ 1850Ω). Partition switch wire harness dropped off. PCB is defective.
		For NE599N1PBSR/AC
E-81	Sub PCB communication error	1. Check whether connector(CN02) of sub PCB is connected properly. 2. Check whether connector(CN201) of main PCB is connected properly. 3. If there is no problem with connection between sub PCB and main PCB, replace the sub PCB.
E-83	Main PCB communication error	1. Check whether connector(CN201) of main PCB is connected properly. 2. Check whether connector(CN02) of Sub PCB is connected properly. 3. If there is no problem with connection between Sub PCB and main PCB, replace the main PCB.

Error Code List for Range Ovens

CODE	CAUSE	REASON / SOLUTION
E-53	**EEPROM error**	**CPU fails to read or write new calibration data from EEPROM. PCB is defective.**
E-54	**Communication error Oven Main PCB ↔ Induction Main PCB (HYB30M)**	**Check whether the wire connectors on both Oven Main PCB and Induction Main PCB (HYB30M) are loose. If there is no problem with the connection, replace the Oven main PCB and/or Induction Main PCB (HYB30M).**
E-55	**Communication error Oven Main PCB ↔ Touch Control**	**Check whether the wire or cable connectors between Oven main PCB and Touch control PCB are loose. If there is no problem with the connection, replace the Oven main PCB and/or Touch control PCB.**
E-56	**Warning error When Cooktop part has error**	**1. If some error occurred to Cooktop part, oven will display this error code and stop oven operation.** **2. Refer to Cooktop Failure Display Codes section.**
cE56 / E84	**Communication Error Oven Main PCB has some problem**	**1: Instantaneous electrical noise has affected MICOM signal. → After reconnecting power, oven can be used normally.** **2: Power plug outlet problem.** **→ Cooktop & oven use 240V (L1 ~ L2), but the control part uses 120V (L1 ~ N). If there is no 240V power to the unit (L2 is missing), the display will show this error code. Check power outlet.** **3 : LVT(Low Voltage Transformer) of oven PCB is damaged or LVT is disconnected.** **→ Reconnect LVT connector or replace main PCB of oven.**

Error Code List for Induction Cooktops

CODE	CAUSE	REASON / SOLUTION
	Top Sensor Open Error	**Defective top sensor, misplaced wires, or defective PCB.** **Resistance of top sensor at room temperature should be: (7.65KΩ~ 9.34KΩ)** **It also occurs when room temperature falls under -10˚C.**
	Top Sensor Short Error	**Defective top sensor, misplaced wires, or defective PCB.** **(Resistance of top sensor at room temperature should be: (7.65KΩ~ 9.34KΩ)**
	IGBT Sensor Open Error (Assy-Inverter Module)	**Defective IGBT sensor, misplaced wires, or defective PCB.** **(Resistance of IGBT sensor at 25˚C should be: 10kΩ)** **It also occurs when room temperature falls under -10˚C.**
	IGBT Sensor Short Error (Assy-Inverter Module)	**Defective IGBT sensor, misplaced wires, or defective PCB.** **(Resistance of IGBT sensor at 25˚C should be: 10kΩ)**
	Touch Button Short Error	**Occurs when the control panel touch sensor is shorted more than 10 seconds.** **•Stuff has been left on the control panel.** **•Liquid overflows and lands on the control panel.** **•More than one key is held down for over 10 seconds.** **•Defective Assy-Touch PCB**
	Over Temperature Error	**Occurs when the temperature of cooktop rises very high. Estimated temperature of the ceramic glass surface is more than 250˚C.** **Ex: an empty cookware is on the working cooktop.**
	Pan Detection Error	**Occurs when the cookware is unsuitable, too small, or if no cookware has been placed on the cooking zone.** **If suitable cookware is placed, the cooktop will operate normally.**
	Low Voltage Error	**Occurs when the DC 12V has dropped under 9V.** **It may occur due to defects of PCB or LV transformer.**
	DC Motor Locking Error	**Occurs when the DC Motor cannot operate due to defects of PCB, wiring or motor blade disturbances.**

Test Mode List

Over Temperature Sensor Resistance Value Chart

degree F	degree C	ohms	degree F	degree C	ohms
0	-17.8	932.12	113	45	1170.17
14	-10	961.86	122	50	1188.93
23	-5	980.95	212	100	1374.93
32	0	1000.00	302	150	1558.01
41	5	1019.02	392	200	1738.06
50	10	1038.02	482	250	1915.39
59	15	1056.99	572	300	2089.69
68	20	1075.92	662	350	2261.07
77	25	1094.83	752	400	2429.52
86	30	1113.71	842	450	2595.05
95	35	1132.56	932	500	2757.65
104	40	1151.38	1000	538	2878.57

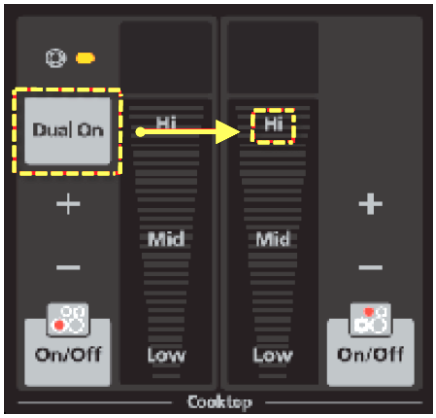
Oven Error Code Recall program

Error Code(s) can be stored in the PCB. There is a max of 5 error codes that can be stored. To recall the error codes, follow the procedures below:

1. **Press CLOCK Key once.**
2. **Press the CLOCK Key again to select AM.**
3. **Press number keys 1, 2, 3, 4.**
4. **Press the SET/START key.**
5. **Hold CUSTOM COOK and “0” key simultaneously for 2 seconds. The most recent error code will be displayed.**
6. **Keep on pressing “0” key to check the 5 most recent error codes.**
7. **Press the Clear/Off Key to return to normal operation.**

Test Mode List

Cooktop Auto check program (FE-N300/500)



1. Hold down DUAL ON pad for 3 seconds.
2. Hold down Hi pad of Rear-Left burner for 3 seconds.
3. Auto check program for Cooktop part will start.
4. If Cooktop part has a problem, auto program will stop and display the corresponding error code

Oven Temperature Calibration

The temperature of the oven has been preset at the factory. In case of the oven being too hot or too cool, the temperature of the oven can be adjusted. The oven temperature can be adjusted ±35°F (±19°C).

To adjust the oven temperature, follow the below procedure:

Bake + 0	1. Hold down BAKE and "0" key simultaneously for 3 seconds, the display will show AdJ 0.	AdJ 0
3 0	2. Enter the adjustment that you want, (eg. Add / subtract 30°F), by using the number pad. Press the BAKE key for +/- sign.	AdJ 30
Set Start	3. Press the SET/START KEY to finish.	- 11:30

Fahrenheit or Celsius temperature display selection

The oven temperature can be displayed in either Fahrenheit or Celsius. The default display is in Fahrenheit.

Broil + 0

To change the display from Fahrenheit to Celsius or from Celsius to Fahrenheit, follow the procedures below:

0

1. Hold down BROIL & "0" key simultaneously for 3 seconds. The display will flash F (Fahrenheit) or C (Celsius).

F

C

Set Start

2. Press "0" key to switch display between F and C.

3. Press the SET/START key to finish.

Test Mode List

Switching between 12-hour and 24-hour clock display

To switch the clock display between 12-hour and 24-hour, follow the procedures below:

1. **Hold down CLOCK and “0” key simultaneously for 3 seconds. The display will show the present mode (eg. 12 hour).**
2. **Press “0” key to select 12 hour or 24 hour.**
3. **Press the SET/START key to set up.**

DELAY TIMED COOKING

Delay Timed Cooking feature is controlled by the oven timer. The timer turns the oven on and off at the time that the customer had selected in advance.

- **Delay Timed Cooking can be set before setting other cooking operations.**
- **The clock must be set for the correct time of day.**

To set the oven for Delay Timed Cooking, follow the procedures below:

- **Position the oven rack(s) and place the food in the oven.**
- **Select the desired cooking operation, eg. BAKE.**
- **Enter the desired temperature, eg. 375°F. (The default temperature is 350°F).**

- **Press COOKING TIME.**
- **Enter the desired cooking time length, eg. 45 min. (The cooking time length can be set from 1 minute to 9 hours and 99 minutes).**

- **Press the DELAY START pad.**

- **Press the CLOCK key once to choose AM or twice for PM. This step is skipped if the time is displayed in 24 hours mode.**
- **Enter the desired time for oven to turn on, eg. 4:30 PM.**

- **Press the SET/START key to set the feature.**

At the set time, a short beep will sound. The oven will begin to operate. When the oven has reached the desired temperature, a long beep will sound 6 times and the oven lamp will flash.

Digital Appliances Division

Third Edition

Microwave Oven / OTR Error Code List

Applied Models

SMH1611, 1713, 1816, 1927

SMH2117

SMH3150

SMH4150

SMH5140, 5165

SMH6140, 6150, 6160, 6165

SMH7150, 7155, 7159, 7174,

SMH7175, 7178, 7185, 7187

SMH8165, 8187

SMH9151, 9187, 9207

ME179KFETSR

AMW8113

BMHC815

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Created By: Guanniu (Victor) Han

Microwave Ovens / OTRs Error Code List

Error Code Numbering Rule

1. ERROR CODE NUMBERING RULE is applied to models that have been developed since January, 1, 2005. (But, GE or Customize models are excluded.)

2. All sensors and devices have their own number. ex) Gas Sensor = 1, Temp. Sensor = 2, ...

3. Of each device, No.1 and No.2 refer to "Open Error" and "Short Error", respectively.

Error code	Failure component code		Error Case code(1 ~ 9)	
E-1* (1~9)	1	Gas Sensor Error	1	Open
E-2* (1~9)	2	Temp sensor Error	2	Short
E-3* (1~9)	3	Weight Sensor Error	3	……
E-4* (1~9)	4	Easy/PH Sensor Error	4	……
E-5* (1~9)	5	EEPROM Error	5	……
E-6* (1~9)	6	Temp sensor Error	6	……
E-0* (1~9)	0	Other components Error	7	……
SE	**Jammed / shorted key**		8	……
TE	**Touch key error**		9	……

Keypad Error		
SE	**Shorted key**	**Keypad short Error(10seconds). Replace Keypad or PCB main.**
TE	**Touch key error**	**Communication error between keypad and PCB. Replace Keypad or PCB main.**

Microwave Ovens / OTRs Error Code List

Code	Meaning	Reason/Solution
E-1*	**Gas Sensor Error**	
E-11	**Sensor Open**	**Sensor open error. Check if there is an unplugged sensor, loose wire connector, or defective PCB. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-12	**Sensor Short**	**Sensor short error. Check if the sensor shorted, or defective PCB. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-13	**T1 Max Time Error**	**Sensor T1 Max Time Error. Check sensor, or defective PCB. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-14	**Dry Up / No Load**	**Check for the presence of dry food or if the oven is empty. Insert food and restart. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-2*	**Temp Sensor Error**	
E-21	**Sensor Open**	**Sensor open error. Check if there is an unplugged sensor, loose wire connector, or defective PCB. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-22	**Sensor Short**	**Sensor short error. Check if the sensor shorted, or defective PCB. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-23	**T1 Max Time Error**	**Sensor T1 Max Time Error. (Preheating not complete) Check heater, sensor, or defective PCB. Replace the sensor if necessary. If error code appears when starting sensing cycle, replace the PCB main.**
E-24	**Over Temperature**	
E-25	**Abnormal Temperature**	**Abnormal Temperature is sensed at Micro Cook. Check sensor, or defective PCB. Cool down unit and restart. Replace the sensor or the PCB main if necessary.**
E-26	**Heating Error**	**Over Temperature Error occurs within first 3 minutes of cooking but the temp does not exceed the high limit. Check sensor, heater, or defective PCB. Replace defective parts.**

Microwave Ovens / OTRs Error Code List

Code	Cause	Reason/Solution
E-3*	**Weight Sensor Error**	
E-31	**Sensor Open**	**Sensor open error. Value of HEX is above "FF for 5 Seconds". Check if there is an unplugged sensor, loose wire connector, or defective PCB.**
E-32	**Sensor Short**	**Sensor short error. Check if the sensor shorted, or defective PCB.**
E-33	**T1 Max Time Error**	**Sensor T1 Max Time Error. The initial value of HEX is under "14" for 30 seconds while a weight sensor in operation. Check sensor, or defective PCB.**
E-34	**Abnormal Sensor**	**The initial value of K calculated by a weight sensor is above and under ±28" as value of HEX.**
E-35	**Abnormal Sensor**	**The value of A is "---" as a weight sensor calculates.**
E-36	**Door Open**	**The door opens during sensor cooking. Check the door latches & door switches. Cancel the present mode and restart.**
E-4*	**Easy/Ph Sensor Error**	
E-41	**Sensor Open**	**Sensor open error. Check if there is an unplugged sensor, loose wire connector, or defective PCB.**
E-42	**Sensor Short**	**Sensor short error. Check if the sensor shorted, or defective PCB.**
E-43	**T1 Max Time Error**	**Sensor T1 Max Time Error. Check sensor, or defective PCB.**
E-44	**Dry Up / No Load**	**Check if the food has already dry or the oven is empty. Insert food and restart. Replace the sensor if necessary.**
E-45	**Cool Error**	**Cooling Error, not temperature chance after 3 minutes. Remove moisture from sensor and restart.**
E-46	**Open**	**Primary Open Error (3 Minutes). Check sensor, or defective PCB.**
E-47	**Door Open**	**The door opens during sensor cooking. Check the door latches & door switches. Cancel the present mode and restart.**

Microwave Ovens / OTRs Error Code List

Code	Cause	Reason/Solution
E-5*	**EEPROM Error**	
E-51	**Open**	**Open circuit, Check wire harness, PCB.**
E-53	**Format Error**	**Read/Write Error**
E-54	**Reset Error**	**Zero not to be set.**
E-6*	**Humidity Sensor Error**	
E-61	**Sensor Open**	**Sensor open error. Check if there is an unplugged sensor, loose wire connector, or defective PCB.**
E-62	**sensor Short**	**Sensor short error. Check if the sensor shorted, or defective PCB. Replace the sensor if necessary.**
E-63	**T1 Max Time Error**	**Sensor T1 Max Time Error. Check sensor, or defective PCB.**
E-6*	**Humidity Sensor Error**	
E-61	**Sensor Open**	**Sensor open error. Check if there is an unplugged sensor, loose wire connector, or defective PCB.**
E-62	**sensor Short**	**Sensor short error. Check if the sensor shorted, or defective PCB. Replace the sensor if necessary.**
E-63	**T1 Max Time Error**	**Sensor T1 Max Time Error. Check sensor, or defective PCB.**
E-0*	**Others**	
E-01	**Door Open**	**Door open error. The door opens while it should not be opened.**
E-02 ~05	**Time Setting Error**	**Cooking time setting over error.** **(2- MWO / 3- Grill / 4- Convection / 5- Combination)**
E-06	**Operation Error**	**Sensor fails to sense that the swing heater has stopped for 20 seconds during cooking.**
E-08	**Operation Error**	**Function of MWO starts with spit inserted into cavity inside.**
E-09	**Operation Error**	**The damper is not set to be positioned for 2 minutes.**